

Hospitalizations and Mortality Due to Falls Among Seniors Aged 65 and Older, Riverside County, 2005

Introduction

Falls are a leading cause of injury and death among the aging population. They are also a leading cause of traumatic brain injuries among older adults.¹ Falls among the elderly are a major public health concern due to the morbidity and mortality they cause. Injuries from falls range from minor bruising to hip fractures and traumatic brain injuries. As age increases the risk for falls and related injuries also increases.

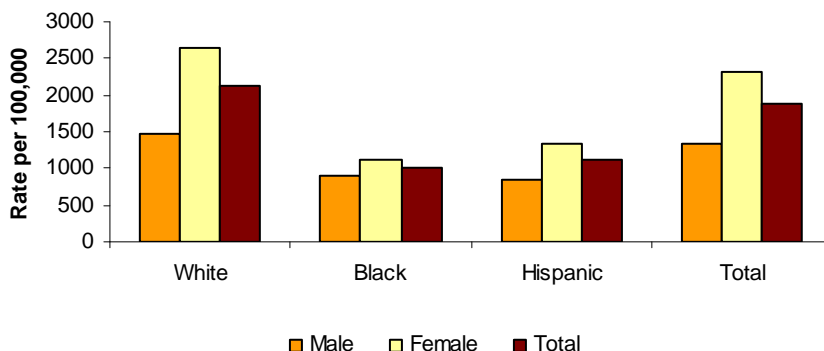
Some risk factors for falls include arthritis; depressive symptoms; impaired cognitions, vision, balance and strength; and the use of multiple medications.² These risk factors have been found to increase not only the incidence of falls, but also severity. Severe falls resulting in hospitalization expose seniors to infections and pneumonia, increasing mortality risk. During the year following a fall, studies have found seniors experienced increased mortality.⁴

Rates of falls among seniors, aged 65 and older, range from four to ten falls per 100 individuals annually.² A fall can reduce mobility and strength and is a predictor of future falls.³ In 2005, there were 6,006 fall-related hospitalizations in Riverside County. Seniors represent five percent of the population of Riverside County; however, 66 percent of fall-related hospitalizations were among seniors. Riverside County experienced 82 fall-related deaths in 2005, with 78 percent of those deaths among seniors. This brief explores the incidence of fall-related morbidity and mortality in Riverside County and describes high risk subgroups.

Key Findings

- In 2005, 3,983 Riverside County seniors were hospitalized for fall-related injuries.
- One out of every 53 seniors was hospitalized due to a fall.
- Almost 50 percent of all accidental deaths among seniors in 2005 were fall-related.
- Nearly one out of every 157 senior deaths were fall-related.

Fall Hospitalization Rates for those Age 65+ by Race and Gender, Riverside County 2005



Hospitalizations Due to Falls

In 2005, the overall hospitalization rate was 312.2 falls per 100,000 population. The rate among seniors was six times higher, at 1,881.1 falls per 100,000 population.

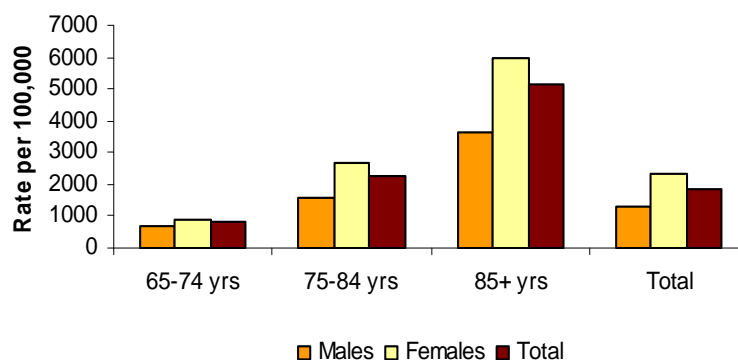
Among all racial/ethnic groups, rates for females remain higher than rates for males. Whites maintain the highest hospitalization rates, followed by Hispanics.

Differences in Hospitalization Rates and Median Cost

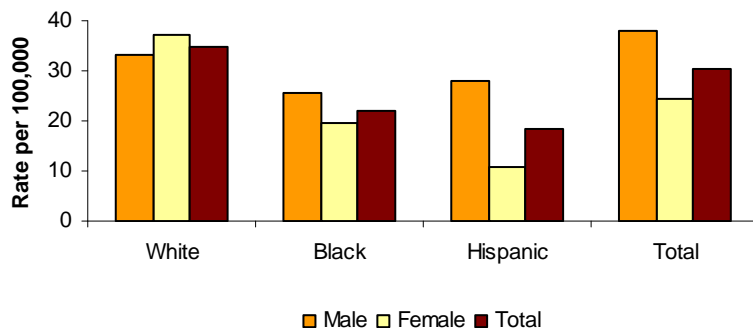
There were notable differences in hospitalization rates by senior age groups. The greatest proportion of seniors hospitalized for falls were those aged 75-84 (45%), followed by those aged 85 and older (34%), and those 65-74 (21%). The youngest age group (65-74 years) had the lowest overall and lowest gender-specific hospitalization rates. The hospitalization rates among seniors aged 85 and older were five times higher compared to this younger age group.

Among seniors the median cost for a fall resulting in hospitalization was approximately \$30,000. This is \$10,000 more than the cost for those under age 65. The average length of hospital stay for those 65 and older was four days, one day greater than the length of stay for non-seniors.

Hospitalizations Among Those 65+ by Age Group, Riverside County, 2005



Mortality Due to Falls Among Those Age 65+ by Race and Gender, Riverside County, 2005



Fall-Related Mortality Among Seniors

In 2005, there were 82 fall-related deaths with 78 percent (n=64) among seniors. Approximately 88% of all deaths were whites and 55 percent were male. Males had a 57 percent higher mortality rate than females. Upon examination of race/ethnicity, the data illustrates whites had the highest mortality rate and Hispanics maintained the lowest rate. Among males, blacks had the lowest fall-related mortality rate with 25.4 per 100,000 population. Hispanic females had the lowest mortality rate for all females.

From the desk of — Cindi Marlin-Stoll, Trauma Coordinator, Emergency Medical Services Agency

The majority of falls creating serious injury and requiring medical attention are among the very young and elderly populations. Among seniors these falls typically result from stepping off curbs, dizziness or fainting from sudden standing, lack of balance, lack of arm strength and wearing loose fitting shoes. Awareness of fall risk is important for seniors as well as their families. Seniors must be educated on fall risks and simple ways of risk reduction. Research indicates the best approaches to fall prevention are multi-factorial. The combination of exercise, environmental modification, clinical intervention, and health promotion are key.⁵ To further aid in the reduction of falls seniors must be encouraged to stay healthy or become healthier. This can be accomplished through balance exercises such as yoga or Tai-Chi, and strength training with weights. Future research in this area should include comparing Riverside County fall-related hospitalizations and mortality to that of California and the US, along with exploring the use of the trauma system for fall-related emergencies.

Penny, MA. *Hospitalizations and Mortality Due to Falls Among Seniors Age 65 and Older, Riverside County, 2005*. Riverside County Department of Public Health, Epidemiology and Program Evaluation, 2009.

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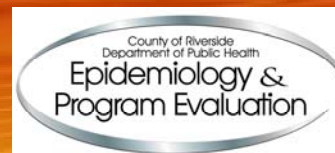
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References:

- Centers for Disease Control and Prevention (2003). Public Health and Aging: Nonfatal Fall-Related Traumatic Brain Injury Among Older Adults—California, 1996—1999. *MMWR* April 4, 2003/52(13):276-278.
- Carroll NV (2005). The Cost of Falls Among the Community-Dwelling Elderly. *JMCP*, 11(4):307-312.
- Navarro A, Ancizu I (2009). Analyzing the occurrence of falls and its risk factors: Some considerations. *PrevMed*.
- Wild D, Nayak USL, Isaacs B (1981). How dangerous are falls in old people at home? *BMJ* 282:266-268.
- Public Health Agency of Canada. *Aging and Seniors: A Best Practices Guide for the Prevention of Falls Among Seniors Living in the Community*. Updated March 2009. http://www.phac-aspc.gc.ca/seniors-aines/pubs/best_practices/bp_executive_summary_e.htm



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